1.Methoxymethane
2.Ethoxyethane
3.
4.Methoxyethane
5.Ethoxypropane
6.these can be disscussed:
Small esters have boiling points which are similar to those of aldehydes and ketones with the same number of carbon atoms. Esters, like aldehydes and ketones, are polar molecules and so have dipole-dipole interactions as well as van der Waals dispersion forces. However, they do not form ester-ester hydrogen bonds, so their boiling points are significantly lower than those of an acid with the same number of carbon atoms.
The reason for this trend in solubility is that although esters cannot hydrogen bond with each other, they can hydrogen bond with water molecules. One of the partially-positive hydrogen atoms in a water molecule can be sufficiently attracted to one of the lone pairs on one of the oxygen atoms in an ester, forming a hydrogen bond. Dispersion forces and dipole-dipole attractions are also present.
Forming these intermolecular attractions releases some of the energy needed to solvate the ester. As chain length increases, the hydrocarbon portion forces itself between water molecules, breaking the relatively strong hydrogen bonds between water molecules without offering an energetic compensation; furthermore, the water molecules are forced into an ordered alignment along the chain, decreasing the entropy in the system. This makes the process thermodynamically less favorable, and so solubility decreases.
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